

REMARKS

Applicant respectfully requests consideration of the subject application as amended herein. This Amendment is submitted in response to an Office Action mailed on August 14, 2003. Claims 1-20 are rejected. No new matter has been added.

First, the Examiner rejected claims 1, 11, and 19-20 under 35 U.S.C. § 103(a) as being unpatentable over Smith, et al. (U.S. Patent No. 5,545,291, hereinafter “Smith”), in view of Suto, et al. (U.S. Patent No. 4,746,787, hereinafter “Suto”).

The Examiner stated that Smith teaches a first substrate (253 in Figure 4) coupled to a second substrate (257 in Figure 4) and the first substrate 253 comprising a plurality of display/driver/integrated circuit blocks 19 which are deposited onto the first substrate (Figure 1-7 and col. 5 lines 37-58, col. 6, line 15 through col. 8, line 10) of the Smith reference. Applicant respectfully disagrees.

As taught by Smith, none of the layer 253 or the layer 257 is a substrate that comprises a plurality of blocks. The layer 253 and layer 257 are both intermediate layers used or formed during the steps of forming and releasing the blocks 19. None of these layers end up in a device that comprises the blocks. The blocks 19 are formed as discussed below.

A gallium arsenide layer 17 is formed over a first substrate 10. As illustrated in Figures 1-3 and column 5 of the Smith patent, after the layer 17 is formed on the substrate 10, masking and etchings steps are performed. “Generally, unexposed portions of gallium arsenide 17 are etched up to sacrificial layer 13 as illustrated in FIG 2. Such etching step provides a plurality of shaped gallium arsenide blocks 19.” After the blocks 19 are formed (after masking and etching), the gallium arsenide layer 17 is no longer on the substrate 10. (Smith, col. 5, lines 45-58). After the blocks 19 are formed on the first

substrate 10, they are removed by a lift-off technique and removed from the substrate 10. (Smith, col. 6, lines 15-35 and Figure 3).

The layer 253 is used in an alternative lift-off method to remove the blocks 19. The layer 253 is a wax layer that is later on removed to release the blocks 19. In particular, Smith taught that after the blocks 19 are formed by masking and etching of the layer 17, a wax layer 253 is spread over the top surface of the exposed portion of the sacrificial layer 13 and gap 255 between each block 19 (Figure 4). An intermediate layer 257 is then formed over the blocks 19 and the wax layer 253 as shown in Figure 4. The wax layer 253 allows the intermediate layer 257 to be formed over the blocks 19. Metalization can then be formed as shown in Figure 5. Thereafter, the wax layer 253 is dissolved to release the blocks 19 as stated in col. 7, lines 8-12.

Thus, as can be seen, Smith used the layer 253 and 257 in the process of making the blocks 19. The blocks 19 are deposited on the substrate 50 in the recesses 55 as shown in Figure 6. As taught in Smith, the blocks 19 are dispensed in a solution and are then deposited onto a substrate 50 into regions 55. (Smith, col. 7, lines 29-49, and Figure 6).

In addition, Figure 7-12 of the Smith patent also shows the blocks 19 being deposited into a substrate. There is not suggestion, teaching, or motivation to indicate that these substrates are coupled to a second substrate as claims in Applicant's invention.

Therefore, Smith did not teach, suggest, or motivate a first substrate coupling to a second substrate wherein the first substrate comprising a plurality of display blocks which are deposited onto said first substrate and an integrated circuit coupled to the display blocks... as claimed by claims 1, 11, 19, and 20.

Suto pertained to an IC card having information storing capacity and data

displaying ability wherein the IC card includes an integrated circuit composed of a transmitter/receiver, a processor, a memory, a display controller, a display, and a control switch for successive switching of the display. (Col. 1, lines 46-63). Suto did not teach, motivate, or even suggest blocks having integrated circuits that are deposited in a first substrate, which is coupled to a second substrate.

Therefore, Smith and Suto, alone or in combination, cannot teach a first substrate coupling to a second substrate wherein the first substrate comprising a plurality of display blocks which are deposited onto said first substrate and an integrated circuit coupled to the display blocks as claimed by claims 1, 11, 19, and 20.

Second, the Examiner rejected claims 2-10, and 12-18 under 35 U.S.C. § 103(a) as being unpatentable over Smith, as modified by Suto as applied to claim 1 above, and further in view of Jacobsen, et al, (U.S. Patent No. 6,281,038, hereinafter “Jacobsen”).

As discussed above, Smith did not teach, suggest, or motivate a first substrate coupling to a second substrate wherein the first substrate comprising a plurality of display blocks which are deposited onto said first substrate and an integrated circuit coupled to the display blocks... as claimed by claims 2-10 and 12-18.

Jacobsen discussed blocks with integrated circuits being rolled or pressed into recessed regions of a flexible or rigid substrate, which is used to form displays.

Smith, Suto, and Jacobsen, alone or in combination cannot teach a first substrate coupling to a second substrate wherein the first substrate comprising a plurality of display blocks which are deposited onto said first substrate and an integrated circuit coupled to the display blocks as claimed by claims 2-10 and 12-18. None of these references, taught, suggested, or motivated, the elements in claims 2-10 and 12-18.

Third, the Examiner rejected claims 2-4, 7-8, 10, 12, 14, and 18 as being obvious over Smith and Jacobsen.

As discussed above, Smith did not teach, suggest, or motivate a first substrate coupling to a second substrate wherein the first substrate comprising a plurality of display blocks which are deposited onto said first substrate and an integrated circuit coupled to the display blocks... as claimed by claims 2-4, 7-8, 10, 12, 14, and 18. Even if Jacobson teaches a flexible substrate applicable for fabricating a display thereon, Jacobson did not teach, suggest, or motivate a first substrate coupling to a second substrate wherein the first substrate comprising a plurality of display blocks which are deposited onto said first substrate and an integrated circuit coupled to each of the display blocks. Jacobson cannot be combined with Smith and/or Suto to derive to the elements claimed in claims 2-4, 7-8, 10, 12, 14, and 18.

Therefore, Smith, alone, or in combination with Jacobsen cannot teach a first substrate coupling to a second substrate wherein the first substrate comprising a plurality of display blocks which are deposited onto said first substrate and an integrated circuit coupled to the display blocks as claimed by claims 2-4, 7-8, 10, 12, 14, and 18.

Fourth, the Examiner rejected claims 5-6, 9, and 13 as being obvious over Smith and Jacobsen. The Examiner stated that Jacobsen teaches a display generation substrate coupled to an active matrix.

As discussed above, Smith did not teach, suggest, or motivate a first substrate coupling to a second substrate wherein the first substrate comprising a plurality of display blocks which are deposited onto said first substrate and an integrated circuit coupled to

the display blocks... as claimed by claims 5-6, 9, and 13 as being obvious over Smith and Jacobsen. Even if Jacobson teaches an active matrix, Jacobson did not teach, suggest, or motivate a first substrate coupling to a second substrate wherein the first substrate comprising a plurality of display blocks which are deposited onto said first substrate and an integrated circuit coupled to each of the display blocks. Jacobson cannot be combined with Smith to derive to the elements claimed in claims 5-6, 9, and 13.

Therefore, Smith, alone, or in combination with Jacobsen cannot teach a first substrate coupling to a second substrate wherein the first substrate comprising a plurality of display blocks which are deposited onto said first substrate and an integrated circuit coupled to the display blocks as claimed by claims 5-6, 9, and 13 as being obvious over Smith and Jacobsen.

As discussed above, the pending claims are patentable over the above references.

**Deposit Account Authorization**


Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Mimi Diemmy Dao at (408) 720-8300.

Respectfully submitted,

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